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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Wilhelm Rademacher

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03/16/2010

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EXAMINER

PRYOR, ALTON NATHANIEL

ART UNIT

PAPER NUMBER

1616

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/009,629	<b>Applicant(s)</b> RADEMACHER ET AL.	
	<b>Examiner</b> ALTON N. PRYOR	<b>Art Unit</b> 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,7,9-12,14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,7,9-12,14,15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                     |                                                                   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                         | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicant's arguments filed 11/30/09 have been fully considered but they are not persuasive. See argument below.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,6,7,9-12,14,15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motojima et al (USPN 4866201; 9/12/89). Motojima et al suggests a method of regulating the growth of ornamental plants as well as plant fruiting (column 20 line 25) comprising applying to the ornamental plants or fruit plant (orchard) a composition comprising instant compounds of formula I. See abstract, column 20 lines 45-63. Motojima et al does not teach an invention comprising specifically treating hop and grapevine plants or an invention comprising increasing amounts of flavonoids and other phenolic compounds in said plants. Note, an ornamental plant is hop plant and a grape plant is a fruit plant. Also note, the instant step of applying the compound of formula I to the hop and/or grapevine plant in the claim is also carried out by Motojima et al; thus, it obvious that the flavonoids and other phenolic compounds would increase in the ornamental and fruit plants of Motojima et al. According to KSR, it would have been obvious to try applying the instant compound of formula I to any ornamental plant

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and any fruit plant, including the hop plant and grapevine plant as claimed, since Motojima et al. teach broadly the application of the compound of formula I to ornamental plants and fruit plants.

The results in the declaration and specification do not appear to be directed to a showing of increasing of flavonoids in hop and grapevine plants following treatment with the instant compound of formula I. Which flavonoids and phenolic compounds are increased following the treatment of hop and grapevine plants with instant compounds of formula I? Please clarify. According to KSR, it would have been obvious to try applying the instant compound of formula I to any ornamental plant and any fruit plant, including the hop plant and grapevine plant as claimed, since Motojima et al. teach broadly the application of the compound of formula I to ornamental plants and fruit plants.

The Examiner does not understand why the Roemmett et al. reference (Phytochemistry, 64, 2003, 709-716) it attached to the declaration. The reference is to the treatment of apple trees rather than hop plants as claimed. Please clarify.

*Response to Applicants' Argument*

Applicants argue that Motojima et al. provides cyclohexane compounds which exhibit useful plant-growth regulating effects on crop-plants and also non-crop plant such as lawn. Motojima et al. is too generic to direct an artisan in the field to any particular plants or plant growth regulating effects which may be achieved. Motojima et al. suggests that the application of the cyclohexane compound may suppress spindly growth resulting from inadequacies of green house conditions. Motojima et al. do not

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suggest treatment of fruit plants. Motojima et al. suggest treatment of "undergrowth grasses in orchard or pasture land." It is impermissible to pick and choose to arrive at a 103(a) rejection. The Examiner argues that Motojima et al. teach ornamental plants and fruit plants which makes instant hop plant and grape plant obvious, respectively (abstract, column 20 line 25). The Examiner argues that since Motojima et al. teach the genus to which the species belong, it would have been obvious to employ any species from the genus and expect the species within the genus to behave similarly. Thus, the genus makes obvious the species.

The Applicants argue that Motojima et al. cannot be said to convey to an artisan in the field that the application of any one of the prior art compounds to a particular plant may be expected to successfully promote fruiting and/or ripening in the plant. Applicants direct the Examiner's attention to Motojima et al. column 20 lines 13-29 to support this position. The Examiner argues that Motojima et al. do not have to exemplify all aspects of their invention in order to render a claimed invention obvious. Thus, Motojima et al. teach that one possible result of applying the cyclohexane compound to plants is to promote fruiting and/or ripening.

Applicants argue that Wikipedia teaches that hop plants in the past were condemned in Britain as a "wicked and pernicious weed." No indication of the hope plant being an ornamental plant. Applicants further argue that orchards are trees and that grapevines are not trees. Therefore, grapevines are not orchards. The Examiner argues that hop plants produce flowers so in the board view hop plants are display or ornamental plants. In addition, a vine can be considered a tree. Therefore, grapevine in

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a board view can be considered an orchard. These are reasonable and logical conclusions; therefore the citing an authority, or swearing out an affidavit is not required.

Applicants argue that the data in the specification indirectly show that the treated grapevines exhibit a quantitative modification of flavonoid content. Applicants direct the Examiners attention to Example 3 to support this position. Roemmelt et al. teach an increase of 3-deoxy flavonoids. The declaration show that the treatment of hops reduced the amount of quercitin and thus a qualitatively modified the content of flavonoids. The Examiner maintains that the results in the specification do not appear to be directed to a showing of increasing of flavonoids in grape plants or vines following treatment with the instant compound of formula I. The results in Roemmelt et al. appear to be derived from apple trees rather than grapevine or hop plants as claimed. The specification and declaration do not provide any direct data showing that treating grape and orchards with instant cyclohexane compound would increase and qualitatively modify the flavonoloid content of the plants (grapes and orchards). Which flavonoids and phenolic compounds are increased following the treatment of grape plants or vines with instant compounds of formula I?

Claims 1,2,10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazawa et al (USPN 5015283; 5/14/91). Miyazawa et al suggests a method of regulating the growth of ornamental plants comprising applying to the ornamental plants a composition comprising instant compounds of formula I. See abstract, column 1 line 39 – column 2 line 45. Miyazawa et al does not teach an invention comprising

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specifically treating hop plants or an invention comprising increasing amounts of flavonoids and other phenolic compounds. Note, ornamental plants are hop plants. Also note, the step of applying the compound of formula I to the hop plant in the claim is also carried out by Miyazawa; thus, it obvious that the flavonoids and other phenolic compounds would increase in the ornamental plants of Miyazawa. According to KSR, it would have been obvious to try applying the instant compound of formula I to any ornamental plant, including the hop plant as claimed, since Miyazawa et al. teach broadly the application of the compound of formula I to ornamental plants.

*Response to Applicants' Argument*

Applicants argue that Miyazawa et al. teach a method of applying cyclohexane compounds to ornamental plants rather than hop plants. Applicants argue that hop plants are not ornamental plants. Miyazawa et al. do not even mention hop plants. The Examiner argues that hop plants produce flowers so in the board view hop plants are display or ornamental plants. Furthermore, The Examiner argues that Miyazawa et al. teach ornamental plants which makes instant hop plant obvious (abstract, column 1 line 39- column 2 line 45). The Examiner argues that since Motojima et al. teach the genus to which the species belong, it would have been obvious to employ any species from the genus and expect the species within the genus to behave similarly. Thus, the genus makes obvious the species.

The Applicants argue that Miyazawa et al. cannot be said to convey to an artisan in the field that the application of any one of the prior art compounds to a particular plant may be expected to yield a certain characteristic (plant growth regulating effect) in the

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plant. Applicants direct the Examiner's attention to Miyazawa et al. column 4 line 41 to column 5 line 13 to support this position. The Examiner argues that Miyazawa et al. do not have to exemplify all aspects of their invention in order to render a claimed invention obvious. Thus, Miyazawa et al. teach possible result or characteristic of applying the cyclohexane compound to plants is regulate the growth of the plants (column 4 line 41 to column 5 line 13).

Claims 1-4,6,7,9-12,14,15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al (USPN 6022831; 2/8/00). Evans et al suggests a method treating fruit trees such as apple and pears trees to control fireblight comprising applying to the fruit trees a composition comprising instant compounds of formula I. See abstract, column 2 line 60- column 5 line 13. Evans et al do not teach an invention comprising grapevine plants or an invention comprising increasing amounts of flavonoids and other phenolic compounds. Note, grapevine plants are fruit trees. Also note, the step of applying the compound of formula I to the fruit tree in the claim is also carried out by Evans et al; thus, it is obvious that the flavonoids and other phenolic compounds would increase in the fruits of Evans et al. Evans et al. do not specify grape trees (vines) as recited in the claims. However, absent a showing of unexpected results for specific fruit trees such as grapevine plants, it would have been obvious to expect that the application of the compounds to any fruit tree, including grapevine claimed, would have resulted in the regulation of the tree's growth. Since Evans et al teach the treatment of fruit trees with instant compound of formula I, it would have been obvious to try treating any fruit treat, including the grape tree or vines, with the instant compound



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of formula. According to KSR, it would have been obvious to try applying the instant compound of formula I to any fruit plant, including the grapevine plant as claimed, since Evans et al. teach broadly the application of the compound of formula I to fruit plants.

*Response to Applicants' argument*

The Applicants argue that Evan et al. teaches a method of applying a cyclohexane compound to fruit trees, not grapevines (*Vitis*). Applicants argue that the Examiner uses this teaching to qualify grapevine to be a fruit tree. Applicants conclude that grapevines would not be considered to be a fruit tree by an artisan in the field. The Examiner argues that in a broad view a grapevine can be considered a fruit tree. These are reasonable and logical conclusions; therefore the citing an authority, or swearing out an affidavit is not required.

Applicants argue that Evans application of the cyclohexane compounds to the fruit trees is to control fire blight. The Examiner maintain that both the instant invention and Evan's invention suggest applying cyclohexane compounds to fruit trees. Since the active steps are the same in both inventions, automatically effect on flavonoids in the plant would be the same.

The results in the specification do not appear to be directed to a showing of increasing of flavonoids in grape plants or vines following treatment with the instant compound of formula I. Which flavonoids and phenolic compounds are increased following the treatment of grape plants or vines with instant compounds of formula I? Please clarify. According to KSR, it would have been obvious to try applying the instant

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compound of formula I to any fruit plant, including the grapevine plant as claimed, since Evans et al. teach broadly the application of the compound of formula I to fruit plants.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Telephonic Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alton N. Pryor whose telephone number is 571-272-0621. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alton N. Pryor/  
Primary Examiner, Art Unit 1616